ABSTRACT

~~The transmissivity of an fθ lens which is used as a means for converging laser light differs in the center and in the edge thereof. As a result, when the fθ lens is used as it is with the purpose of crystallizing by laser irradiation, energy distribution of the laser light which is irradiated on the semiconductor film is not uniform so that the whole surface of the semiconductor film could not be irradiated uniformly. Therefore, the present invention provides a laser irradiation apparatus including a galvanometer mirror and an fθ lens that can offset the change of the energy due to the change of transmissivity of the fθ lens and can scan the laser light while controlling the change of the energy on the object to be irradiated. Moreover, the invention provides a manufacturing method of a semiconductor device including the laser irradiation apparatus described above.~~ The present invention is related to a method of manufacturing a semiconductor device. In particular, the method of the present invention is related to uniformly irradiating a semiconductor film with laser light. In order to achieve the present invention, a scanning speed of the laser light is changed depending on a position to be irradiated. Particularly, the scanning speed becomes higher as the position gets closer to a center of the substrate.